

PARASITIC WITCHWEED: STRIGA ASIATICA
VERSUS S. LUTEA (SCROPHULARIACEAE)

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When plants of a witchweed were discovered in 1956 parasitizing *Zea mays* L. in North and South Carolina, specimens were sent to Kew for identification. I determined them as *Striga asiatica* (L.) O. Kuntze and communicated the name to Dr. S. F. Blake and other authorities in the United States, who used it until a paper by Dr. C. J. Saldanha (1963) proposed the rejection of that name in favour of *S. lutea* Lour. (Smith 1966). The purpose of this paper is to reinstate *S. asiatica* on the basis of typification of the Linnean basionym *Buchnera asiatica*, rather than on the opinions of other taxonomists.

Linnaeus' description of *Buchnera asiatica* in 'Species Plantarum' (1753) is unusually full for that work and entirely devoid of any references to literature. This indicates that he had before him a specimen, or specimens, from which he drew up his description. Examination of his herbarium at the Linnean Society, London, revealed six sheets bearing the name '*Buchnera asiatica*' in Linnaeus' hand and now numbered according to Savage's Catalogue as 790/10, 11, 12, 13, 14, & 15.

Sheets 13, 14 and 15 can be discounted, since they are annotated as having been collected by Thunberg (13) sometime after 1772, and by Koenig (14 & 15) in 1777 according to the date on the sheet. They are referable to *Striga bilabiata* (Thunb.) O. Kuntze (syn. *S. thunbergii* Benth.) and *S. euphrasioides* Benth., respectively.

Sheet 12 bears a single simple plant with pale flowers that would be known in India as *Striga lutea*. The only annotation on the sheet is 'Indica,' indicating its country of origin. The specimen does not fit Linnaeus' description, and it can be ruled out as the type.

Five specimens are glued to sheet 10, including a well-branched plant with dark-coloured flowers that fits the

original description admirably. Two other specimens match it except for their simple habit. The remaining two are only the inflorescences of *Striga densiflora* Benth. The specimen on sheet 11 is very similar to the large branched one on sheet 10, but there is no annotation apart from the name. On sheet 10, however, Linnaeus has added the locality "ins. Johan.," and although the 'Species Plantarum' cites the distribution as "Habitat in Zeylona, China" this reference to "ins. Johan." provides a clear indication of the provenance and history of what must be regarded as the type material of *Buchnera asiatica*. Where, then, is "ins. Johan." and who collected the specimen?

Several voyages to China were undertaken before 1753, including one by Peter Osbeck who wrote an account of it in Swedish (1757) which was translated into German (1765) and from the German edition into English, and published in 1771 under the title 'A voyage to China and the East Indies, together with a voyage to Suratte by Olof Toreen in a series of letters to Doctor Linnaeus.' Toreen (or Torén), in fact, continued his voyage as far as China and it is his letters, and not Osbeck's text, which are of particular interest since he tells (p.166) how, on 16 August 1750, he landed at the island of "St. Joanna" in the Comoros near Madagascar. It is evident that Linnaeus worked out the collections made by Toreen and Osbeck, attributing them all to China in the appendix to Osbeck and Toreen's travels entitled 'Flora Sinensis.' There, on p. 356, is listed *Buchnera asiatica* with the reference to 'Species Plantarum.' It is interesting to note that the same island was visited by Koenig in 1768 where he gathered the plant Linnaeus (1771) described as *Baccharis arborea* (which Brenan (1968) identified as *Vernonia grandis* (DC.) Humbert var. *comorensis* Humbert), yet Linnaeus gave the occurrence as the "East Indies."

Striga asiatica (L.) O. Kuntze, Rev. Gen. Pl. 2: 466. 1891.

Type. Comoro Islands, St. Joanna, *Toreen* LINN. (Savage Cat. No. 790/10 partly).

Buchnera asiatica L., Sp. Pl. 630. 1753.

Striga lutea Lour., Fl. Cochinch. 22. 1740.

Buchnera hirsuta Benth., Scroph. Ind. 41. 1835.

Striga hirsuta (Benth.) Benth. in Hook., Comp. Bot. Mag. 1: 363. 1836.

Bentham's work was completed long before an international code of botanical nomenclature had been agreed, and certainly his concepts of typification were not in accord with modern attitudes. Hence, he coined the new names to replace *Buchnera asiatica* which seemed to him, as to Saldanha, to apply to a number of different species. The more so since he considered *S. lutea* Lour. to be a distinct species.

Saldanha considered *Striga asiatica* and its basionym as *nomena rejicienda* under Art. 69 since "any attempt to decide a lectotype is bound to be arbitrary and open to question." On the contrary, this species is one of the few Linnean species that may be typified and localized with certainty.

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LITERATURE CITED

- BRENAN, J. P. M. 1968. The identity of *Baccharis arborea* L. Kew Bull. 21: 427.
- LINNAEUS, C. 1753. Species Plantarum, 630.
- . 1771. Mantissa Plantarum, 284.
- OSBECK, P. 1771. A voyage to China and the East Indies. (English ed.).
- SALDANHA, C. J. 1963. The genus *Striga* Lour. in Western India. Bull. Bot. Surv. India 5(1): 67-70.
- SMITH, C. EARLE. 1966. Identity of witchweed in the southeastern United States. Rhodora 68(774): 167.

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